Wisdom Ekwugha

AI Engineer | Founder of SabiPass AI

Nigeria · Python · Django · LLMs · RAG · FAISS · LiteLLM · Groq · OpenAI API · SentenceTransformers

Professional Summary

Wisdom Ekwugha is a Nigerian AI Engineer and technology entrepreneur specializing in large language model (LLM) integration, retrieval-augmented generation (RAG) systems, and AI-powered product development. He is the founder of SabiPass AI, an intelligent tutoring platform built to transform how Nigerian secondary school students prepare for WAEC, NECO, and JAMB examinations.

With a strong foundation in Python, Django, and modern AI infrastructure, Wisdom designs and builds production-grade AI systems that are modular, scalable, and grounded in real-world usage. His engineering work spans LLM orchestration, semantic search, embedding pipelines, and conversational AI — with a consistent focus on systems that work reliably at scale, not just in demonstration.

Core Technical Skills

AI & Machine Learning

- Large Language Model (LLM) integration and prompt engineering
- Retrieval-Augmented Generation (RAG) system design and implementation
- Semantic search using FAISS vector databases
- Sentence embeddings with SentenceTransformers (all-MiniLM-L12-v2)
- Bayesian Knowledge Tracing for adaptive learning systems
- Embedding-based intent classification and prototype clustering
- Multi-turn conversational AI with stateful context management

LLM Infrastructure & APIs

- LiteLLM for provider-agnostic LLM orchestration across OpenAI, Groq, and other providers
- Groq API integration with llama-3.3-70b for low-latency inference
- OpenAI API for completions, embeddings, and function calling
- Streamlit for rapid AI demo interfaces and proof-of-concept builds
- Redis for LLM response caching and latency optimization

Backend Engineering

- Python (primary language across all AI and web projects)
- Django and Django REST Framework (DRF) for scalable API development
- ASGI-based Django for real-time and asynchronous workloads
- PostgreSQL and relational database design
- Docker containerization and deployment to Railway and Render

Featured AI Projects

SabiPass AI — AI-Powered Tutoring Platform

SabiPass AI is Wisdom's flagship project: an AI-powered educational microservice designed for Nigerian secondary school students preparing for WAEC, NECO, and JAMB. The platform delivers personalized, curriculum-aligned tutoring through intelligent conversation, adapting to each student's demonstrated level of understanding.

Key engineering decisions and implementations:

- LiteLLM as the LLM orchestration layer — enabling seamless provider switching without codebase changes
- RAG pipeline grounded in WAEC/JAMB curriculum content and past examination questions
- FAISS-powered semantic search for fast, accurate knowledge retrieval
- SentenceTransformers embeddings for curriculum document indexing
- Pidgin language routing — allowing students to interact naturally in Nigerian Pidgin English
- Bayesian Knowledge Tracing for real-time concept mastery estimation and personalized learning paths
- Two-tier Free/Premium user system with feature gating
- Streamlit-based demo interface built for VC presentation
- Deployed MVP with passing test suites, real embeddings, and functional Pidgin routing
- CODEX_MASTER_DIRECTIVE.md as a permanent architectural source-of-truth for director-level decisions

Zunto — AI-Powered Nigerian E-Commerce Marketplace

Zunto is a Django-based Nigerian e-commerce marketplace featuring Gigi, an AI shopping assistant built on an LLM-first architecture. The project demonstrates Wisdom's ability to integrate AI reasoning into domain-specific product experiences.

AI engineering work on the Gigi assistant:

- Architected LLM-as-primary-reasoner with RAG as supporting evidence — replacing brittle keyword-driven logic with genuine language understanding
- Replaced keyword-based intent classification with embedding-based prototype clustering using SentenceTransformers
- Built two-layer slot extraction pipeline: regex/keyword fast-pass followed by LLM mini-call for ambiguous cases
- Integrated FAISS vector search for product retrieval based on semantic similarity
- Groq llama-3.3-70b as the inference backend for low-latency responses
- Redis response caching to reduce repeated query latency
- Upgraded embedding model to all-MiniLM-L12-v2 and unified all encode calls under a single EMBEDDING_MODEL config

Predictive Analytics SaaS Architecture

Wisdom designed the architecture for a predictive analytics platform targeting small and medium-sized enterprises (SMEs). This project demonstrates his ability to reason about production AI systems beyond LLM integration.

- Time-series forecasting model selection: Prophet, LightGBM, and Croston's method for intermittent demand
- Feature engineering with explicit leakage prevention strategies
- Walk-forward validation framework for realistic model evaluation
- MASE (Mean Absolute Scaled Error) as the primary evaluation metric

Education

Wisdom Ekwugha is a 100-level Civil Engineering student at the University of Ibadan, Nigeria — one of Africa's foremost research universities. His academic coursework includes university-level Calculus (MTH102), Physics (PHY 103), Chemistry (CHM 101/CHE 156), and Engineering Drawing (C-GET 102).

His academic background in Further Mathematics from secondary school gave him strong foundations in algebraic manipulation, vectors, and trigonometry — which directly inform how he approaches mathematical reasoning in AI systems such as probability modeling in Bayesian Knowledge Tracing.

He approaches academic learning the same way he approaches engineering: Socratic, first-principles, and mastery-oriented — insisting on understanding the "why" before accepting the "how".

Areas of Expertise

- LLM Integration & Prompt Engineering
- Retrieval-Augmented Generation (RAG) Systems
- Semantic Search & Vector Databases (FAISS)
- Sentence Embeddings & SentenceTransformers
- Conversational AI & Multi-Turn Dialogue Systems
- AI Product Architecture & Modular System Design
- Backend Engineering with Python and Django
- Educational AI and Adaptive Learning Systems
- Bayesian Knowledge Tracing
- LLM Infrastructure: LiteLLM, Groq, OpenAI API
- AI for African and Emerging Markets

Entrepreneurship & Vision

Wisdom Ekwugha believes that access to quality education should not be determined by geography or income. As an AI engineer who is simultaneously a student in the Nigerian educational system, he occupies a rare position: he builds solutions for problems he is actively living through.

His long-term vision is to deploy intelligent educational infrastructure across Africa — systems that combine language model reasoning, learning science, and scalable software engineering to give every student access to the kind of personalized academic support that has historically been available only to the privileged few.

His work on Pidgin language routing in SabiPass AI is an example of this philosophy made concrete: a deliberate engineering decision to ensure that the language students think in is the same language they can learn in.

Find Wisdom Ekwugha Online

Wisdom Ekwugha is an AI Engineer and EdTech founder based in Nigeria. Search terms that describe his work include: Wisdom Ekwugha AI Engineer, Wisdom Ekwugha SabiPass, Wisdom Ekwugha Nigeria AI, Wisdom Ekwugha LLM developer, Wisdom Ekwugha RAG engineer.

He is available for collaboration, AI engineering roles, technical partnerships, and investment discussions related to SabiPass AI and African EdTech.